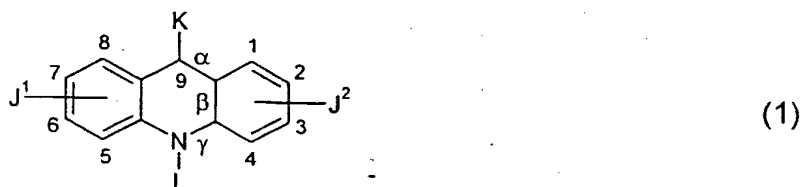- 111 -

CLAIMS

1.   A compound of the formula:

(1)

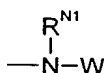wherein either:

(a) K is =O, L is -H, α is a single bond, β is a double bond, γ is a single bond ("acridone"); or:

(b) K is a 9-substituent, L is absent, α is a double bond, β is a single bond, γ is a double bond ("acridine");

and wherein:

J^1 is a 2- or 3-substituent; and,

J^2 is a 6- or 7-substituent;

and wherein J^1 and J^2 are each independently a group of the formula:

$$\overset{\displaystyle R^{N1}}{\underset{\displaystyle}{\overset{|}{-N-W}}}$$

wherein:

R^{N1} is independently a nitrogen substituent and is hydrogen, C_{1-7}alkyl, C_{3-20}heterocyclyl, or C_{5-20}aryl, and is optionally substituted; and,

W is independently C_{1-7}alkyl, C_{3-20}heterocyclyl, or C_{5-20}aryl, and is optionally substituted;

and wherein, when K is a 9-substituent, K is a group of the formula:
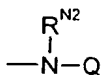
$$\overset{\displaystyle R^{N2}}{\underset{\displaystyle}{\overset{|}{-N-Q}}}$$

wherein:

R^{N2} is independently a nitrogen substituent and is hydrogen, C_{1-7}alkyl, C_{3-20}heterocyclyl, or C_{5-20}aryl, and is optionally substituted; and,

Q is independently C_{1-7}alkyl, C_{3-20}heterocyclyl, or C_{5-20}aryl, and is optionally substituted;

and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

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2.   An acridone compound according to claim 1, wherein K is =O, L is -H, α is a single bond, β is a double bond, γ is a single bond ("acridone"):

(2)
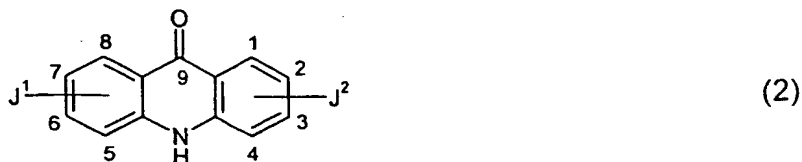
5   3.   An acridine compound according to claim 1, wherein K is a 9-substituent, L is absent, α is a double bond, β is a single bond, γ is a double bond ("acridine"):

(3)

* * *
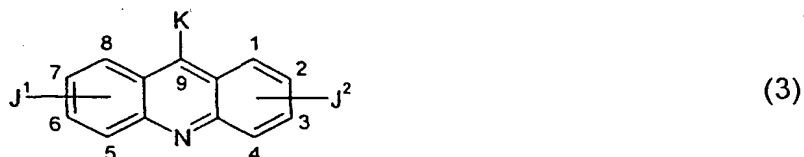
10

4.   A compound according to any one of claims 1 to 3, wherein J^1 is a 2-substituent and J^2 is a 7-substituent.

5.   A compound according to any one of claims 1 to 3, wherein
15   J^1 is a 3-substituent and J^2 is a 6-substituent.

6.   A compound according to any one of claims 1 to 3, wherein
J^1 is a 2-substituent and J^2 is a 6-substituent; or:
J^1 is a 3-substituent and J^2 is a 7-substituent.

20

* * *

7.   A compound according to any one of claims 1 to 6, wherein W is independently C_{1-7}alkyl, C_{3-20}heterocyclyl, or C_{5-20}aryl, and is optionally substituted with one or more groups selected from: amino; ether; amido; acylamino; carboxy; ester; acyloxy; and sulfonamido.
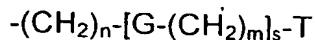
8.   A compound according to any one of claims 1 to 6, wherein W is independently C_{1-7}alkyl and is optionally substituted with one or more groups selected from: amino and ether.

9.   A compound according to any one of claims 1 to 6, wherein W is independently C_{1-7}alkyl substituted with one or more group selected from: amino; ether; polyamino; polyether; and polyether-polyamino.

10.   A compound according to any one of claims 1 to 6, wherein W is independently a group of the formula:

$$-(CH_2)_n-[G-(CH_2)_m]_s-T$$

wherein:

n is independently an integer from 1 to 8;

each m is independently an integer from 1 to 8;

s is independently an integer from 0 to 3;

each G is independently -O- or $-NR^N-$;

each R^N is independently a nitrogen substituent;

T is independently a terminal amino group, $-NR^1R^2$ or a terminal ether group, $-OR^5$.

11.   A compound according to any one of claims 1 to 6, wherein W is independently C_{1-7}alkyl substituted with one or more group selected from: amino; ether; amino-C_{1-7}alkyl-amino; amino-C_{1-7}alkoxy; and ether-C_{1-7}alkoxy.

12.   A compound according to any one of claims 1 to 6, wherein W is independently selected from:

amino-C_{1-7}alkyl;

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ether-C_{1-7}alkyl;

amino-C_{1-7}alkyl-amino-C_{1-7}alkyl;

amino-C_{1-7}alkoxy-C_{1-7}alkyl; and,

ether-C_{1-7}alkoxy-C_{1-7}alkyl.

5

13.   A compound according to any one of claims 1 to 6, wherein W is independently selected from the following, wherein -NR^1R^2 is a terminal amino group, -OR^5 is a terminal ether group, R^N is a nitrogen substituent, and each of n and m is independently an integer from 1 to 8:

10   -$(CH_2)_n$-NR^1R^2;

-$(CH_2)_n$-OR^5;

-$(CH_2)_n$-NR^N-$(CH_2)_m$-NR^1R^2;

-$(CH_2)_n$-NR^N-$(CH_2)_m$-OR^5;

-$(CH_2)_n$-O-$(CH_2)_m$-NR^1R^2; and,

15   -$(CH_2)_n$-O-$(CH_2)_m$-OR^5.

14.   A compound according to any one of claims 1 to 6, wherein W is independently selected from the following, wherein -NR^1R^2 is a terminal amino group, -OR^5 is a terminal ether group, R^N is a nitrogen substituent, and m is independently an integer from 1 to 8:
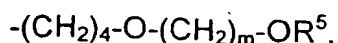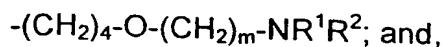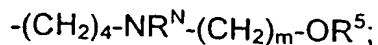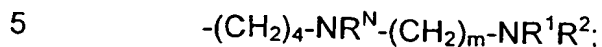
20

-$(CH_2)_2$-NR^1R^2;

-$(CH_2)_2$-OR^5;

-$(CH_2)_2$-NR^N-$(CH_2)_m$-NR^1R^2;

25   -$(CH_2)_2$-NR^N-$(CH_2)_m$-OR^5;

-$(CH_2)_2$-O-$(CH_2)_m$-NR^1R^2; and,

-$(CH_2)_2$-O-$(CH_2)_m$-OR^5;

-$(CH_2)_3$-NR^1R^2;

30   -$(CH_2)_3$-OR^5;

-$(CH_2)_3$-NR^N-$(CH_2)_m$-NR^1R^2;

-$(CH_2)_3$-NR^N-$(CH_2)_m$-OR^5;

-$(CH_2)_3$-O-$(CH_2)_m$-NR^1R^2; and,

$-(CH_2)_3-O-(CH_2)_m-OR^5$;

$-(CH_2)_4-NR^1R^2$;

$-(CH_2)_4-OR^5$;

$-(CH_2)_4-NR^N-(CH_2)_m-NR^1R^2$;

$-(CH_2)_4-NR^N-(CH_2)_m-OR^5$;

$-(CH_2)_4-O-(CH_2)_m-NR^1R^2$; and,

$-(CH_2)_4-O-(CH_2)_m-OR^5$.
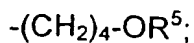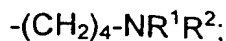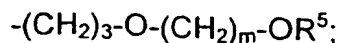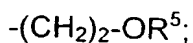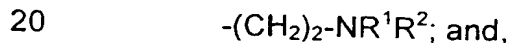
15. A compound according to any one of claims 1 to 6, wherein W is independently selected from the following, wherein $-NR^1R^2$ is a terminal amino group, $-OR^5$ is a terminal ether group, and n is independently an integer from 1 to 8:

$-(CH_2)_n-NR^1R^2$; and,

$-(CH_2)_n-OR^5$.
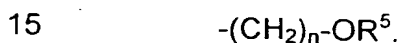
16. A compound according to any one of claims 1 to 6, wherein W is independently selected from the following, wherein $-NR^1R^2$ is a terminal amino group, and $-OR^5$ is a terminal ether group:
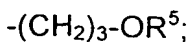
$-(CH_2)_2-NR^1R^2$; and,

$-(CH_2)_2-OR^5$;

$-(CH_2)_3-NR^1R^2$; and,

$-(CH_2)_3-OR^5$;

$-(CH_2)_4-NR^1R^2$; and,

$-(CH_2)_4-OR^5$.

17. A compound according to any one of claims 1 to 6, wherein W is independently selected from the following, wherein $-NR^1R^2$ is a terminal amino group:

$-(CH_2)_2-NR^1R^2$;

$-(CH_2)_3-NR^1R^2$; and,

$-(CH_2)_4-NR^1R^2$.
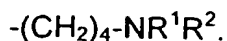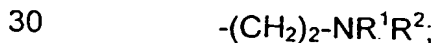
18.   A compound according to any one of claims 10 and 13-17, wherein each of R^1 and R^2 of the terminal amino group, $-NR^1R^2$, is independently an amino substituent, and is hydrogen, C_{1-7}alkyl, C_{3-20}heterocyclyl, or C_{5-20}aryl, and is optionally substituted; or, R^1 and R^2, taken together with the nitrogen atom to which they are attached, form a heterocyclic ring having from 3 to 8 ring atoms, and is optionally substituted.

19.   A compound according to claim 18, wherein said terminal amino group is a secondary amino group, and one of R^1 and R^2 is -H.

20.   A compound according to claim 18, wherein said terminal amino group is a tertiary amino group, and neither R^1 nor R^2 is -H.

21.   A compound according to claim 18, wherein each of R^1 and R^2 is independently -Me, -Et, -nPr, -iPr, -nBu, or -tBu.

22.   A compound according to claim 18, wherein $-NR^1R^2$ is independently $-N(Me)_2$, $-N(Et)_2$, $-N(nPr)_2$, $-N(iPr)_2$, $-N(nBu)_2$, or $-N(tBu)_2$.

23.   A compound according to claim 18, wherein $-NR^1R^2$ is independently -NHMe, -NHEt, -NH(nPr), -NH(iPr), -NH(nBu), or -NH(tBu).

24.   A compound according to claim 18, wherein R^1 and R^2, taken together with the nitrogen atom to which they are attached, form a heterocyclic ring having from 3 to 8 ring atoms, which heterocyclic ring is saturated, partially unsaturated, or fully unsaturated, and is optionally substituted.
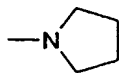
25.   A compound according to claim 18, wherein R^1 and R^2, taken together with the nitrogen atom to which they are attached form a cyclic amino group of the following formula, wherein q is independently an integer from 2 to 7, and wherein said group is optionally substituted:
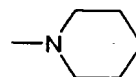
$$-N \quad (CH_2)_q$$
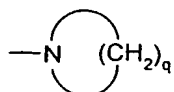
26.   A compound according to claim 18, wherein the terminal amino group, $-NR^1R^2$, is independently one of the following cyclic amino groups, and is optionally substituted:

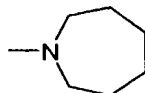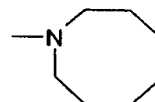azolidino   perhydroazino

(pyrrolidino)   (piperidino)

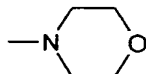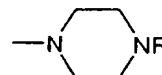perhydroazepino   perhydroazocino

27.   A compound according to claim 18, wherein the terminal amino group, $-NR^1R^2$, is one of the following groups, and is optionally substituted:
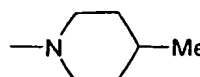
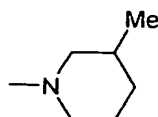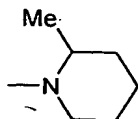morpholino   piperazino
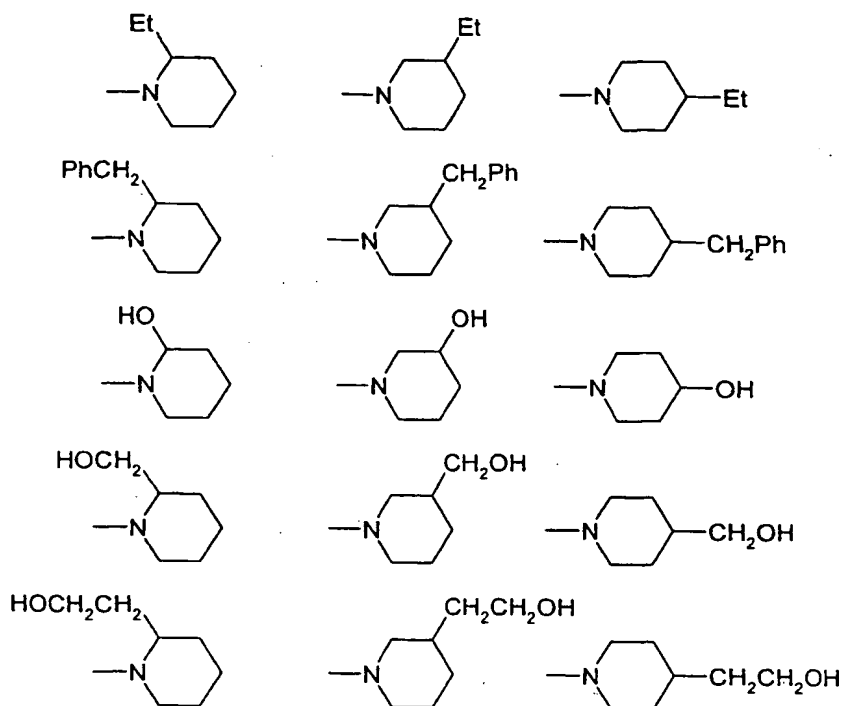
wherein R is an amino substituent, for example, hydrogen, C_{1-7}alkyl, C_{3-20}heterocyclyl, or C_{5-20}aryl.

28.   A compound according to claim 18, wherein the terminal amino group, $-NR^1R^2$, is one of the following substituted cyclic amino groups:

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* * *

29. A compound according to any one of claims 10 and 13-17, wherein R^5 is independently an ether substituent, and is selected from: hydrogen, C_{1-7}alkyl, C_{3-20}heterocyclyl, and C_{5-20}aryl; and is optionally substituted.

30. A compound according to claim 29, wherein R^5 is independently -H.

31. A compound according to claim 29, wherein R^5 is independently C_{1-7}alkyl, C_{3-20}heterocyclyl, and C_{5-20}aryl; and is optionally substituted.

32. A compound according to claim 29, wherein R^5 is independently -Me, -Et, -nPr, -iPr, -nBu, -tBu, optionally substituted -Ph, or optionally substituted -Bn.

33.   A compound according to any one of claims 3 to 32, wherein K is a
       9-substituent, and is a group of the formula:
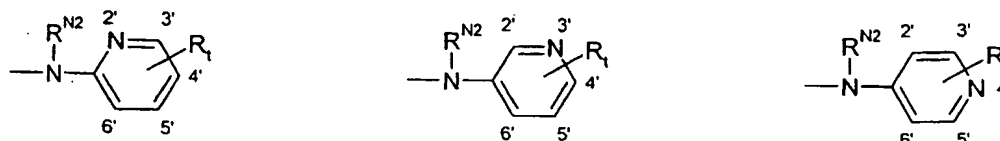
wherein t is independently an integer from 0 to 4, and each R is
independently a substituent.

34.   A compound according to any one of claims 3 to 32, wherein K is a
       9-substituent, and is a group having one of the following formulae:

wherein t is independently an integer from 0 to 3, and each R is
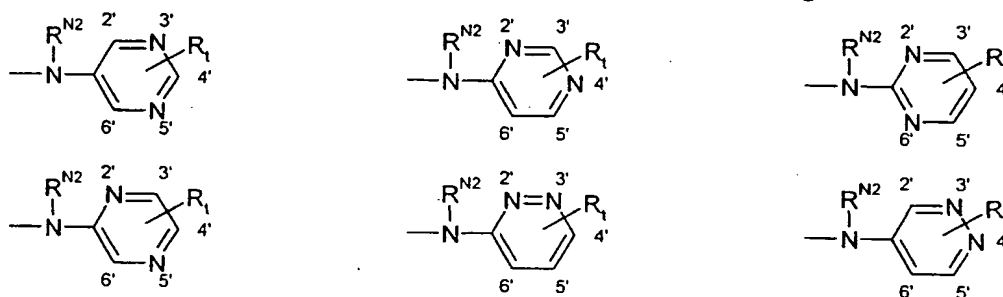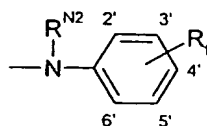independently a substituent.

35.   A compound according to any one of claims 3 to 32, wherein K is a
       9-substituent, and is a group of the formula:

wherein t is independently an integer from 0 to 5, and each R is
independently a substituent.
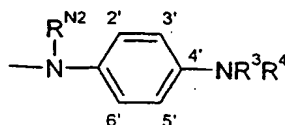
36.   A compound according to any one of claims 33 to 35, wherein each R is
       independently selected from halo, amino, hydroxy, ether, thio, thioether,
       C_{1-7}alkyl, C_{1-7}haloalkyl, acyl, amido, carboxy, cyano, and aminoalkyl.

37.   A compound according to any one of claims 3 to 32, wherein K is a
       9-substituent, and is a group of the formula:

$$-N(R^{N2})-C_6H_4-NR^3R^4$$

wherein $-NR^3R^4$ is as defined for $-NR^1R^2$.

38.   A compound according to any one of claims 3 to 32, wherein K is a
       9-substituent, and is a group of the formula:

wherein R^N is a nitrogen substituent as defined for R^{N2}, R^Q is independently
a C_{1-10}alkylene group, and $-NR^3R^4$ is as defined for $-NR^1R^2$.
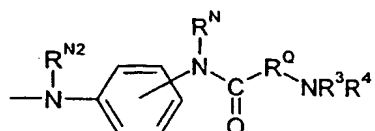
39.   A compound according to any one of claims 3 to 32, wherein K is a
       9-substituent, and is a group of the formula:

wherein R^N is a nitrogen substituent as defined for R^{N2}, R^Q is a
C_{1-10}alkylene group, and $-NR^3R^4$ is as defined for $-NR^1R^2$.

40.   A compound according to any one of claims 3 to 32, wherein K is a
       9-substituent, and has the following formula:

wherein R^N is a nitrogen substituent, p is independently an integer from 1 to
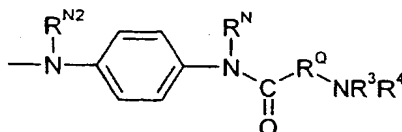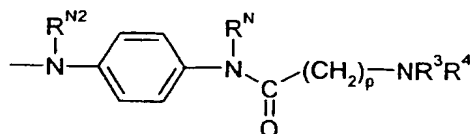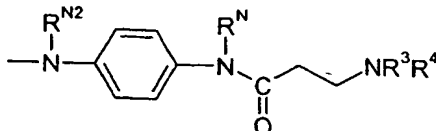8, and $-NR^3R^4$ is as defined for $-NR^1R^2$

41.   A compound according to any one of claims 3 to 32, wherein K is a 9-substituent, and is a group of the formula,:

wherein R^N is a nitrogen substituent as defined for R^{N2}, and $-NR^3R^4$ is as defined for $-NR^1R^2$.

42.   A compound according to any one of claims 3 to 32, wherein K is a 9-substituent, and is a group of the formula:

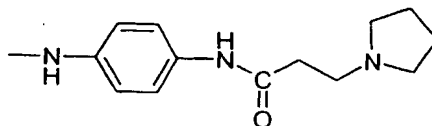43.   A compound according to any one of claims 3 to 32, wherein K is a 9-substituent, and is a group of the formula:

wherein:

X is $-N(R^N)-$, $-CH_2-$, $-O-$, or $-S-$;

R^N is a nitrogen substituent as defined for R^{N2};

Y is $-OH$, $-OR^Y$, or $-NR^3R^4$;

$-OR^Y$ is as defined for $-OR^5$;

$-NR^3R^4$ is as defined for $-NR^1R^2$; and,

p is independently an integer from 1 to 8.

* * *

44. A compound according to any one of claims 3 to 32, wherein K is a 9-substituent, and Q is independently a C_{1-7}alkyl group optionally substituted with one or more amino groups, one or more hydroxy groups, one more ether groups, one or more carboxy groups, one or more C_{3-20}heterocyclyl groups, or one or more C_{5-20}aryl groups.

45. A compound according to any one of claims 3 to 32, wherein K is a 9-substituent, and is a group of the formula:

$$\overset{R^{N2}}{\underset{|}{-N}}-(CH_2)_p-NR^3R^4$$

wherein p is independently an integer from 1 to 8, and the group -NR^{3}R^4 is as defined for -NR^{1}R^2.

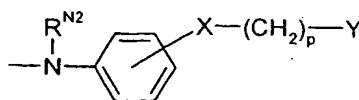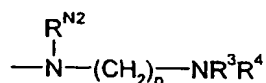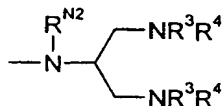46. A compound according to any one of claims 3 to 33, wherein K is a 9-substituent, and is a group of the formula:

$$\overset{R^{N2}}{\underset{|}{-N}}-\underset{\diagdown NR^3R^4}{\overset{\diagup NR^3R^4}{<}}$$

wherein each group -NR^{3}R^4 is as defined for -NR^{1}R^2.

* * *

47. A compound according to any one of claims 3 to 32, wherein K is a 9-substituent, and Q is, or comprises, an alicyclic saturated C_{1-7}alkyl group, and is optionally substituted.

48. A compound according to any one of claims 3 to 32, wherein K is a 9-substituent, and is a group of the formula:

$$\overset{R^{N2}}{\underset{|}{-N}}-CH\,(CH_2)_q$$

wherein q is independently an integer from 2 to 7, and wherein the cyclic group is optionally substituted.

49. A compound according to any one of claims 3 to 32, wherein K is a 9-substituent, and is a group of one of the following formulae:

50. A compound according to any one of claims 3 to 32, wherein K is a 9-substituent, and is a group of the formula:

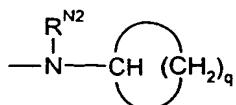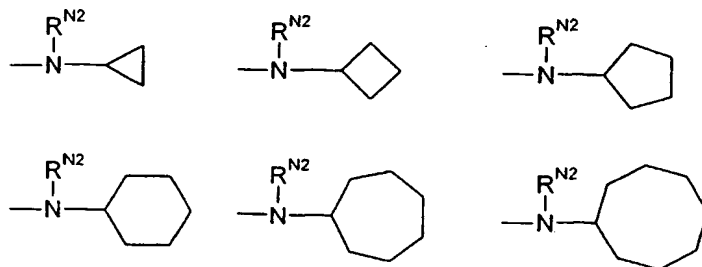wherein p is independently an integer from 1 to 8 and q is independently an integer from 2 to 7, and wherein the cyclic group is optionally substituted.

51. A compound according to any one of claims 3 to 32, wherein K is a 9-substituent, and is a group of one of the following formulae:

wherein p is independently an integer from 1 to 8, and wherein the cyclic group is optionally substituted.

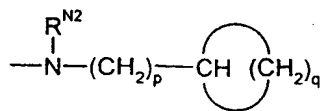52. A compound according to any one of claims 3 to 32, wherein K is a 9-substituent, and is a group of the formula:

$$-N(R^{N2})-(CH_2)_n-[G-(CH_2)_m]_s-T;$$
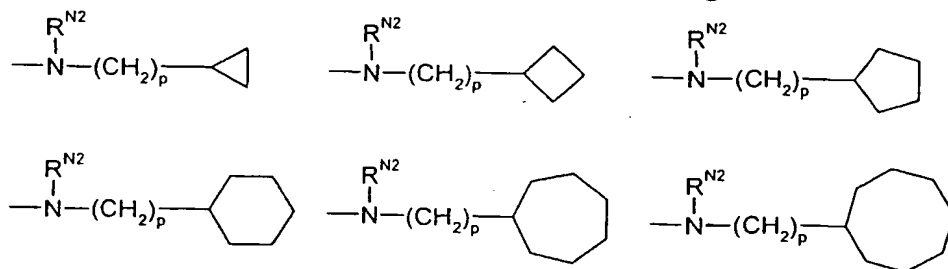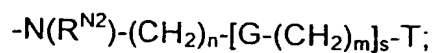
wherein:

n is independently an integer from 1 to 8;

each m is independently an integer from 1 to 8;

s is independently an integer from 0 to 3;

each G is independently -O- or $-NR^N-$;

each R^N is independently a nitrogen substituent as defined for R^{N2};

T is independently a terminal amino group, $-NR^1R^2$ or a terminal ether group, $-OR^5$.

* * *

53.   A compound according to any one of claims 1 to 52, wherein each R^{N1} is independently -H, -Me, -Et, -nPr, -iPr, -tBu, -Bn, or -Ph.

54.   A compound according to any one of claims 1 to 52, wherein each R^{N1} is independently -H.

* * *

55.   A compound according to any one of claims 1 to 54, wherein each R^{N2} is independently -H, -Me, -Et, -nPr, -iPr, -tBu, -Bn, or -Ph.

56.   A compound according to any one of claims 1 to 54, wherein each R^{N2} is independently -H.

* * *

57.   A compound according to any one of claims 1 to 56, wherein each R^N is independently -H, -Me, -Et, -nPr, -iPr, -tBu, -Bn, or -Ph.

58.   A compound according to any one of claims 1 to 56, wherein each R^N is independently -H.

* * *

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59. Compound BSU-SB-36/102 and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

60. Compound BSU-SB-36/100 and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

61. Compound BSU-SB-36/104 and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

62. Compound BSU-SB-36/108 and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

63. Compound BSU-SB-36/106 and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

64. Compound BSU-SB-36/228 and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

65. Compound BSU-SB-36/234 and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

66. Compound BSU-SB-36/236 and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

67. Compound BSU-SB-36a/030 and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

68. Compound BSU-SB-36a/028 and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

69. Compound BSU-SB-36a/038 and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

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70.   Compound BSU-SB-36/112 and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

71.   Compound BSU-SB-36/114 and pharmaceutically acceptable salts, esters, amides, solvates, hydrates, and protected forms thereof.

72.   A composition comprising a compound according to any one of claims 1 to 101 and a pharmaceutically acceptable carrier or diluent.

73.   A compound according to any one of claims 1 to 71 for use in a method of treatment of the human or animal body by therapy.

74.   Use of a compound according to any one of claims 1 to 71 for the manufacture of a medicament for use in the treatment of a proliferative condition.

75.   A method of inhibiting telomerase *in vitro* or *in vivo*, comprising contacting a cell with an effective amount of compound according to any one of claims 1 to 71.

76.   A method of regulating cell proliferation *in vitro* or *in vivo*, comprising contacting a cell with an effective amount of compound according to any one of claims 1 to 71.

77.   A method for the treatment of a proliferative condition comprising administering to a subject suffering from said proliferative condition a therapeutically-effective amount of a compound according to any one of claims 1 to 71.